

**FORMATION OF AN OPTICAL
COMPONENT HAVING SMOOTH SIDEWALLS**

ABSTRACT OF THE INVENTION

The invention relates to a method of forming an optical component having a light transmitting medium positioned over a base. The method includes forming a mask over the light transmitting medium. The mask is formed so as to protect a region of the light transmitting region where a waveguide is to be formed. The method also includes applying an etching medium to the light transmitting medium so as to form one or more surfaces of the waveguide. The etching medium includes a fluorine containing gas and one or more partial passivants. In some instances, the etching medium excludes oxygen.